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To:	U.S.P.T.O. Certificate of Correction Branch	From:	(Ms.) Shannon L. Beech
Fax:	1-571-270-9932	Pages:	10
Attn:	Mr. Lewis	Transmitter:	Frances Brunke
Re:		Date:	December 4, 2007
Your Ref:	6,876,944	KEGB Ref:	57064-A

☒ **Urgent** ☒ **For Review** ☐ **Please Comment** ☐ **Please Reply**
☒ **Via Facsimile Only** ☐ **Confirmation Copy To Follow By Mail**

COMMENTS:

URGENT

As per your voicemail message of December 4, 2007, please find a copy of our original Request to Supersede Certificate of Correction dated December 22, 2006.

Please acknowledge receipt of this letter.

Shannon L. Beech
SLB/fb

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IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Applicant : MCGAUGHEY, Donald R. et al.
Patent No. : 6,876,944
Issued : April 5, 2005
Serial No. : 10/777,113
Filed : February 13, 2004
Title : MOTOR SPEED ESTIMATION FOR STABILIZED
MOTOR CONTROL
Art Unit : 2863
Examiner : BHAT, Aditya S.

KIRBY EADES GALE BAKER
Box 3432, Station D
Ottawa, Ontario
CANADA K1P 6N9

Commissioner for Patents
Office of Patent Publication
Attention: Certificate of Correction Branch
P.O. Box 1450
Alexandria, VA 22313-1450
United States of America

Dear Sir:

REQUEST TO SUPERCEDE CERTIFICATE OF CORRECTION
ISSUED ON OCTOBER 4, 2005

We request that the Certificate of Correction of October 4, 2005 issued in respect of the above patent number be superceded and that a new and complete Certificate of Correction be issued. The Certificate of Correction issued on October 4, 2005, was incomplete. For the correction indicated on Column 19, the correction recited that claims 38-42 should read as follows; however, the correction recites only claim 38 and not claims 38-42. The originally filed Certificate of Correction (a copy of which is hereby attached) indicates that claims 38 through to 42 should be incorporated in the Certificate of Correction. The amendment was made to maintain the original claim numbering and order and correct the claim dependency

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U.S. Patent and Trademark Office
Application Serial No. 10/777,113
Our File No.: 57064-A
December 21, 2006



The Form PTO/SB/44 which is attached to this letter is the form that was originally sent on August 19, 2005. As the Certificate of Correction issued on October 4, 2005 was incomplete, we submit that no additional fee is required as we simply request that the originally requested Certificate of Correction be issued.

Respectfully submitted,

Shannon L. Beech
Reg. No. 53,924
Tel. (613) 237-6900
Our File No. 57064-A
December 21, 2006

**IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE**

COPY

Applicant : MCGAUGHEY, Donald R. et al.
Patent No. : 6,876,944
Issued : April 5, 2005
Serial No. : 10/777,113
Filed : February 13, 2004
Title : MOTOR SPEED ESTIMATION FOR STABILIZED
MOTOR CONTROL
Art Unit : 2863
Examiner : BHAT, Aditya S.

KIRBY EADES GALE BAKER
Box 3432, Station D
Ottawa, Ontario
CANADA K1P 6N9

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
United States of America

Dear Sir:

REQUEST FOR CERTIFICATE OF CORRECTION

The above identified patent issued on April 5, 2005. Upon receiving and reviewing the Letters Patent document, the following errors were noticed:

- Column 2, line 66: ' one f the ' should read ' one of the '
- Column 4, line 66: ' DF 1118 ' should read ' CDF 118 '
- Column 7, line 3: ' known that that the ' should read ' known that the '
- Column 14, line 46: ' product). ' ' should read ' product). '

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U.S. Patent and Trademark Office
Application Serial No. 10/777,113
August 19, 2005

COPY



Claims 38-42 should read as follows:

38. A system for estimating a motor speed comprising:
- a correlation mechanism for determining a correlation between a current wave sensed at the motor and frequency pairs from a set of weighted frequency pairs representing the current wave;
 - a fitting mechanism for fitting components of a motor control signal to a corresponding number of first orthogonal pairs in a set of weighted orthogonal pairs, the orthogonal pairs being orthogonal to the frequency pairs;
 - a region determination mechanism for comparing a subharmonic from the current wave with a harmonics speed model to identify two regions in which to locate a corresponding harmonic, the subharmonic having a frequency less than a motor control signal;
 - a corresponding frequencies mechanism for identifying a harmonics pair of frequencies in the two regions having a separation from each other no greater than a smallest harmonic of the motor control signal, wherein one of the frequencies in the harmonics pair is the corresponding harmonic;
 - a speed estimation mechanism for comparing desired frequencies from the identified harmonics pairs with a harmonics speed model to determine an estimation of the speed; and
 - a controller in communication with the correlation mechanism, the fitting mechanism, the mse reduction mechanism and the speed estimation mechanism for coordinating the process of estimating the motor speed.
39. The system according to claim 38 wherein the fitting mechanism comprises:
- an orthogonal weights mechanism for determining the orthogonal weight for an orthogonal pair from the set of weighted orthogonal pairs based on the value of one of the frequency pairs; and
 - a frequency weights mechanism for determining the frequency weight for a frequency pair from the set of weighted frequency pairs based on the corresponding orthogonal weight.

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U.S. Patent and Trademark Office
Application Serial No. 10/777,113
August 19, 2005

COPY



40. The system according to claim 38 further comprising:
a CDF analysis mechanism for determining if a previous motor speed is classified as low and providing a supplement frequency component of the motor control signal to the fitting mechanism to be fit as a second pair of the orthogonal pairs if the previous motor speed is classified as low.
41. The system according to claim 38 further comprising:
a subharmonics mechanism for searching the current wave for subharmonics between 0Hz and the frequency of the motor control signal.
42. The system according to claim 38 further comprising:
a harmonics identification mechanism for locating harmonics in the regions.

Claims 38 to 42 were renumbered when the allowed application was prepared for publication as Patent No. 6,876,944. Neither the Applicant nor the owner was consulted regarding this. We request that the original claim numbering and order be restored and that a correction in the claim dependency of claim 42 (changed to claim 38 by the above publication preparations) be made.

Accompanying this request is form PTO/SB/44 which clearly shows the errors and necessary amendments and the required \$100.00 fee (credit card payment - Form PTO-2038).

Respectfully submitted,

A handwritten signature in cursive script, appearing to read 'Shannon L. Beech'.

Shannon L. Beech
Reg. No. 53,924
Tel. (613) 237-6900
Email@kirbyeades.com
Our File No. 57064-A
August 19, 2005

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,876,944 B2
DATED : April 5, 2005
INVENTOR(S) : McGaughey, Donald R. et al.

Page 1 of 2

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 2.

Line 66, "one f the" should read -- one of the --.

Column 4.

Line 66, "DF 1118" should read -- CDF 118 --.

Column 7.

Line 3, "known that that the" should read -- known that the --.

Column 14.

Line 46, "product)." should read -- product). --.

Column 19.

Lines 31-57, claims 38-42 should read as follows:

38. A system for estimating a motor speed comprising:

a correlation mechanism for determining a correlation between a current wave sensed at the motor and frequency pairs from a set of weighted frequency pairs representing the current wave;

a fitting mechanism for fitting components of a motor control signal to a corresponding number of first orthogonal pairs in a set of weighted orthogonal pairs, the orthogonal pairs being orthogonal to the frequency pairs;

a region determination mechanism for comparing a subharmonic from the current wave with a harmonics speed model to identify two regions in which to locate a corresponding harmonic, the subharmonic having a frequency less than a motor control signal;

a corresponding frequencies mechanism for identifying a harmonics pair of frequencies in the two regions having a separation from each other no greater than a smallest harmonic of the motor control signal, wherein one of the frequencies in the harmonics pair is the corresponding harmonic;

a speed estimation mechanism for comparing desired frequencies from the identified harmonics pairs with a harmonics speed model to determine an estimation of the speed;
and

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

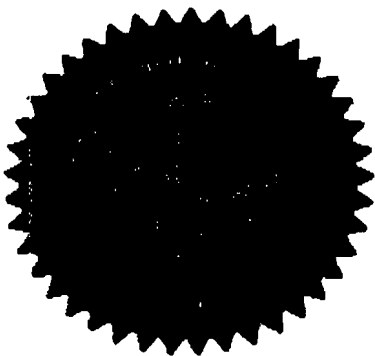
PATENT NO. : 6,876,944 B2
DATE : April 5, 2005
INVENTOR(S) : McGaughey, Donald R. et al.

Page 2 of 2

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 19 (cont.).

a controller in communication with the correlation mechanism, the fitting mechanism, the mse reduction mechanism and the speed estimation mechanism for coordinating the process of estimating the motor speed.



Signed and Sealed this
Fourth Day of October, 2005

JON W. DUDAS
Director of the United States Patent and Trademark Office

PTO/SB/44 (04-05)

Approved for use through 04/30/2007. OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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(Also Form PTO-1050)**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**Page 1 of 2

PATENT NO. : 6,876,944
APPLICATION NO.: 10/777,113
ISSUE DATE : April 5, 2005
INVENTOR(S) : MCGAUGHEY, Donald R. et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 2, line 66: ' one f the ' should read ' one of the '
Column 4, line 66: ' DF 1118 ' should read ' CDF 118 '
Column 7, line 3: ' known that that the ' should read ' known that the '
Column 14, line 46: ' product).' ' should read ' product).' '

Claims 38-42 should read as follows:

38. A system for estimating a motor speed comprising:

a correlation mechanism for determining a correlation between a current wave sensed at the motor and frequency pairs from a set of weighted frequency pairs representing the current wave;

a fitting mechanism for fitting components of a motor control signal to a corresponding number of first orthogonal pairs in a set of weighted orthogonal pairs, the orthogonal pairs being orthogonal to the frequency pairs;

a region determination mechanism for comparing a subharmonic from the current wave with a harmonics speed model to identify two regions in which to locate a corresponding harmonic, the subharmonic having a frequency less than a motor control signal;

a corresponding frequencies mechanism for identifying a harmonics pair of frequencies in the two regions having a separation from each other no greater than a smallest harmonic of the motor control signal, wherein one of the frequencies in the harmonics pair is the corresponding harmonic;

a speed estimation mechanism for comparing desired frequencies from the identified harmonics pairs with a harmonics speed model to determine an estimation of the speed; and

a controller in communication with the correlator mechanism, the fitting mechanism, the mse reduction mechanism and the speed estimation mechanism for coordinating the process of estimating the motor speed.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

KIRBY EADES GALE BAKER
P.O. Box 3432, Station D
Ottawa, Ontario K1P 6N9 CANADA

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the complete application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/44 (04-05)

Approved for use through 04/30/2007. OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**Page 2 of 2

PATENT NO. : 6,876,844
APPLICATION NO.: 10/777,113
ISSUE DATE : April 5, 2005
INVENTOR(S) : MCGAUGHEY, Donald R. et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

39. The system according to claim 38 wherein the fitting mechanism comprises:

an orthogonal weights mechanism for determining the orthogonal weight for an orthogonal pair from the set of weighed orthogonal pairs based on the value of one of the frequency pairs; and

a frequency weights mechanism for determining the frequency weight for a frequency pair from the set of weighed frequency pairs based on the corresponding orthogonal weight.

40. The system according to claim 38 further comprising:

a CD = analysis mechanism for determining if a previous motor speed is classified as low and providing a supplement frequency component of the motor control signal to the fitting mechanism to be fit as a second pair of the orthogonal pairs if the previous motor speed is classified as low.

41. The system according to claim 38 further comprising:

a subharmonics mechanism for searching the current wave for subharmonics between 0Hz and the frequency of the motor control signal.

42. The system according to claim 38 further comprising:

a harmonics identification mechanism for locating harmonics in the regions.

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